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09/521,791	03/09/2000	Chia-Chang Li	LUT-2-0035	3014

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Richard J Minnich Esq
Fay Sharpe Fagan Minnich & McKee LLP
1100 Superior Avenue
Seventh Floor
Cleveland, OH 44114

EXAMINER
CHOW, CHARLES CHIANG

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2684	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/521,791	Applicant(s) LI ET AL.	
	Examiner Charles Chow	Art Unit 2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Detailed Action

Abstract

1. The abstract of the disclosure is objected to because of the implied language, "This invention relates". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton-Piercy et al. (US 5,809,395) in view or Raffel et al. (US 5,675,629).

Regarding **claim 1**, Hamilton-Piercy discloses a system for integrating a wireless communication (comm.) network (a public mobile system integrated with the Optically-Connected-Microcell-Base station OCMBS 210, and the OCMSs, having fiber cable 209 connections to the hub/headend radio base equipment RBSE, abstract, figure in cover page, Fig. 1-14, col. 11, line 65; col. 1, lines 10-17; summary of invention).

Hamilton-piercy discloses the system includes at least one public base station (the other radio base station RBS sites connected to the MTSO 200 via microwave link 203) with a cable comm. network (fiber 209) including at least one of a distribution hub and a head end (the radio base station microcell optical equipment RBSMOE, as the hub distributing network

equipment for distributing the analog/digital signal to the headend RBSMCE to the fiber cable 209, figure in cover page).

Hamilton-Piercy discloses the headend or hub (in Fig. 1) is connected to the wireless comm. network MSTO 200 for providing the telephone service from mobile 206.

Hamilton-Piercy discloses the distribution network being defined including the wireless comm. network (the other RBS sites using microwave link 203) and the cable comm. network (the OCMBS subsystem, the RBSE, in Fig. 1), such that the mobile 206 could be handed off to a better base station of site which could have better voice quality (col. 11, lines 36-54).

Hamilton-Piercy discloses a personal base station system (OCMBS system connected to fiber cable 209, figure in cover page) operative to manage and process analog comm. signal and provides a digital network interface to the distribution network (analog or digital interfaces in Fig. 2, in the RBSE distribution network). The personal base station (OCMBS 238, Fig. 2) includes the interface 121 for interfacing to the fiber plant 232 (Fig. 2, col. 16, lines 29-38)

Hamilton-Piercy discloses a handset unit (mobile 206) operative to select one of a first comm. channel through the personal base station (OCMBS) via air interface provided by the interface unit (in col. 16, lines 29-38), and a second comm. channel for comm. through the at least one public base station (other RBS sites, 203) as shown in col. 7, line 42 to col. 8, line 9; col. 11, lines 36-54. The mobile 206 could select second new channel frequency set from neighboring public RBS site 207, when the quality of the first channel of the personal-

OCMBS 205 is degraded. Beside, in below, Raffel also teaches the mobile station 12 could select the channel for comm. with personal cordless-cellular base station 10, and also mobile station 12 could also select channel to comm. with the public cell network's base station 18 (Fig. 1, col. 10, line 51 to col. 11, line 17).

Hamilton-Piercy does not clearly indicate the details for the data base in one of the cable network (microcell OCMBS) and the wireless network (radio base station 205), could include the identification data for communication through the first and second channels. Raffel teaches the system comprises the mobile station 12 (fig. 1) in comm. with cordless cell base station CCBS 10 in residence area and also in comm. with the public cellular network having the cellular base station 18 (Fig. 1-6; col. 10, line 51 to col. 11, line 17). The cellular network downloads, from database, the parameters to CCBS 10 having the Public system SID, the residential RSID, the list of authorized frequencies, to identify the resources used by the comm. channels (col. 23, line 60 to col. 24, line 33). The mobile station 12 also stores the RSID, SID, operating channel 88 in the table 78 (col. 8, line 59 to col. 9, line 5; col. 19, lines 28-53; col. 20, lines 40-52; col. 23, line 60 to col. 24, line 29).

Raffel also teaches the handoff procedure, base on the stored RSID, SID, when mobile moves to the close range of the residential cordless-cellular-base-station CCBS 10 (abstract). Raffel teaches when the mobile 12 is outside residence CCBS 10's coverage area to deregister from the CCBS 10 using handoff procedure (col. 4, lines 46-57; col. 40, lines 29-39; col. 11, lines 52-55; col. 40, lines 29-39;col. 56, line 48). Raffel provides the detailed solution for downloading, from database, the RSID, SID, operating frequency 88, to CCBS

10, and also mobile 12 for storing the above parameters, such that the parameters could be retrieved for convenient registration dynamically. It is inherent if not obvious, to include Raffel's downloaded the RSID, SID, operating frequency 88, to CCBS 10, and the mobile 12 could store, retrieve, them for conveniently, dynamically registration. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify and add Raffel's downloaded the RSID, SID, operating frequency 88 to CCBS 10, and the mobile 12 for storing, retrieving, them, to Hamilton-Piercy, such that the system could be upgraded for conveniently, dynamically, registration by retrieving the stored information for RSID, SID, and the operating channel.

Regarding **claims 2, 3**, Hamilton-Piercy discloses the transmit signal, and the receive/ transmit analog signal over fiber cable 209, as shown above, using the analog/digital interface in the OCMBS.

Regarding **claim 4**, Hamilton-Piercy has shown above the modules in the RBSE hub/headend could receive the analog and transmit corresponding digital, as shown above in Fig. 2, the analog or digital interface between digital multiplexer 222 and the radio transceiver 220.

Regarding **claim 5**, as shown above, Raffel has shown above the mobile 12 handset for storing the RSID, SID, in table 78 database.

Regarding **claim 6**, Hamilton-Piercy has shown above the handoff, from RBS 205 to RBS 207, is based upon the MSTO's signal strength measurements when mobile 206 is close to 207 (col. 11, lines 29-35, shown in claim 1). Raffel has shown above the mobile 12 could

comm. with both the public base station 18 or the residence CCBS 10, using stored operating channel 88, as shown above in claim 1.

Regarding **claim 7,** Raffel has shown when the mobile 12 is outside the CCBS 10's coverage area, when residential CCBS 10 is not operative due to received weak signal, mobile 12 deregisters from CCBS 10 and registers to the cellular base station 18, as shown above.

Regarding **claim 8,** Raffel has shown above the identification data related to the registration, origination, the termination, and the handoff procedures.

3. Claims 9-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamilton-Piercy in view or Raffel.

Regarding **claim 9**, referring to the examiner's comment in claim 1 above, for a system integrated with public base station, distribution hub, headend, being defined to include wireless network and cable network; the personal base station RBS/OCMBS, residential CCBS 10; the handset mobile 206, mobile 12; the database for downloading RSDI, SID, operating frequencies 88, through one of the first and second comm. channels.

Regarding **claim 10**, referring to the examiner's comment for Hamilton-Piercy for the antenna 18 of the OCMBS in Fig. 2.

Regarding **claim 11**, referring to the examiner's comment for Hamilton-Piercy for the interface for frequency conversion connected to HFC link (the frequency translators 56, 77 in Fig. 4, the translator 34, 81-83 in Fig. 5).

Regarding **claim 12**, referring to the examiner's comment for Hamilton-Piercy in Fig. 4, for the micro processor 31 for controlling the frequency conversion in 56 for air interface to antenna 18 via amplifier 10, duplexer 17.

Regarding **claims 13, 18**, referring to the examiner's comment for Hamilton-Piercy for the modulator/demodulator in Fig. 4, items 56, 67; and the equalizer for group delay (col. 21, lines 7-12). Raffel considered the word error (col. 5, line 60 to col. 6, line 6) and Codec (col. 39, lines 48-54).

Regarding **claim 14**, referring to the examiner's comment for Hamilton-Piercy for the available bandwidth (col. 16, lines 44-52) and VCO tuning in the translator (col. 23, lines 37-67).

Regarding **claims 15, 19**, referring to the examiner's comment in claims 1, 8 above, for the registration, the origination, the termination and the handoff process procedure.

Regarding **claim 16**, referring to the examiner's comment in claim 1 above for the for the system integrated with public base station, distribution hub, headend, being defined to include wireless network and cable network; the personal base station RBS/OCMBS, residential CCBS 10; the handset mobile 206, mobile 12; and the database.

Regarding **claim 17**, referring to the examiner's comment in claims 1, 10 above for the antenna of the radio subsystem.

Regarding **claim 20**, referring to the examiner's comment in claims 1, 6, 7 above for the method for providing a first channel through personal base station connected to cable network; the second channel through public base station; the selection of the first or second

cannel by handset is based on proximity of the handset to the personal base station, residential CCBS 10 or OCMBS site.

Conclusion

4. In the above discussion, Hamilton-Piercy discloses a public mobile system integrated with the Optically- Connected-Microcell-Base station OCMBS 210, and the OCMSs, having fiber cable 209 connections to the hub/headend radio base equipment RBSE. Hamilton-piercy discloses the public other radio base station RBS sites connected to the MTSO 200 via microwave link 203 having fiber cable 209 and the distribution network hub/head end in the the radio base station microcell optical equipment RBSMOE. Hamilton-Piercy discloses the mobile 206 could be handed off to a RBS site which could have better voice quality, from OCMBS 205 to public RBS 207. Hamilton-Piercy discloses the analog or digital interfaces in Fig. 2, in the RBSE distribution network. The personal OCMBS 238 includes the interface 121 for interfacing to the fiber plant 232. Hamilton-Piercy discloses a mobile 206 operative to select one of a first comm. channel through the personal OCMBS via air interface, and a second comm. channel for comm. through the public other RBS sites, 203. The mobile 206 could select second new channel frequency set from neighboring public RBS site 207, when the quality of the first channel of the personal-OCMBS 205 is degraded.
Raffel teaches the downloaded, stored, RSID, SID, operating frequency 88 to CCBS 10, and the mobile 12 for storing, retrieving, them for the dynamic registration/deregistration to/from residential CCBS 10 and public base station 18. Raffel also teaches the mobile station 12 could select the channel for comm. with personal cordless-cellular base station 10, and also

mobile station 12 could also select channel to comm. with the public cell network's base station 18

5. The cited pertinent prior arts are listed below:

   A. US 5,867,485, February 1999, Chambers et al. discloses the integrated fiber cable system has the *remote node transceiver 14 for comm. with subscriber stations 36, 38, 40, 52, 54 over the air (abstract, figure in cover page, Fig .1-5). The system comprising the modulator, demodulator, analog cable headend, internet server, hub, Mux, Pstn.*

   B. US 5,890,055, Chu et al. discloses the *cable connected Hub 104 (abstract, Fig. 2, Fig. 1, summary of invention) for communicate with wireless device 10 over the air. The system comprises the personal base station (repeater 100-103)*

   C. US 2002/0033,416 A1, March 2002, Gerszberg et al. discloses the *synchronous optical network SONET-ring-Hub distribution network (figure in cover page, abstract, Fig. 1-17), for providing the billing services of the system for the videophone 130.*

   D. US 5,761,619, June 1998, Danne et al. discloses the *handoff the MS 611 in between additional antenna sites 603, other than the normal call path antenna site 603 (abstract, figure in cover page). In Fig. 2, it shows plurality of fiber cables 201. In Fig. 3, it shows the local handoff LHO among base stations connected by the fiber cables.*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703)-306-5615.
   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Daniel Hunter, can be reached at (703)-308-6732.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Charles Chow

October 15, 2002.